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June 15, 2016

Ms. Pamela Tames
Remedial Project Manager
U.S. Environmental Protection Agency
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PROJECT: RAC 2, region 2 Contract No.: EP-W-09-002
Work Assignment No.: 060-RICO-02MV

DOCUMENT NO.: 3323-060-02861

SUBJECT: Remedial Investigation Technical Approach Meeting
Pierson's creek Site
Remedial Investigation/Feasibility Study (RI/FS)

Dear Ms. Tames:

This letter summarizes key discussion items from the meeting held on June 1, 2016 (11:00 am to 1:00 pm) at EPA's New York City office to discuss the technical approach for the field investigation for the Pierson's Creek Site Remedial Investigation/Feasibility Study. A PowerPoint presentation, which provided a basis for the discussion, was prepared and distributed to all attendees in advance of the meeting. The presentation is attached to this letter.

Attendees (sign-in sheet attached)

- Michael Clemetson, EPA Ecological Risk Assessor (by phone)
- Nick Mazziotta, EPA Risk Assessor
- Marian Olsen, EPA Human Health Risk Assessor
- Michael Scorca, EPA Hydrogeologist
- Joel Singerman, EPA Section Chief
- Michael Sivak, EPA Acting Chief, Special Projects
- Pamela Tames, EPA Remedial Project Manager
- Amelia Wagner, EPA Office of Regional Counsel
- Steve Mayberry, NJDEP (by phone)
- Joseph Button, CDM Smith Hydrogeologist
- Edward Leonard, CDM Smith Site Manager
- Brendan MacDonald, CDM Smith Deputy Program Manager
- Joseph Mayo, CDM Senior Scientist





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Key Items Discussed

- An overview of site background information and the preliminary conceptual site model (CSM) was presented and discussed. A comprehensive summary of the existing site background and a CSM was provided in the technical memorandum provided to EPA on May 24, 2016. The technical memorandum is under review by EPA.
- The scope of the RI/FS was discussed with EPA and clarified. EPA indicated that the RI/FS does not include the Troy Chemical property. The RI on the Troy Chemical property is being conducted by others. The RI/FS scope includes Pierson's Creek and the drainage ditches and point sources (primarily discharges from pipes and stormwater) that discharge to the Pierson's Creek and adjacent soil sources that could enter the creek by overland flow (e.g., the sidecast area, soils adjacent to Globe Metals), and discharge of contaminated groundwater to the creek. The portion of Pierson's Creek that will be investigated during the RI begins immediately south of Troy Chemical, extending southward to and including the Port Newark Channel of Newark Bay.
- EPA is currently discussing potential investigation of adjacent upland properties with the State of New Jersey and is drafting a SOW for the remediation of 429 Delancy Street, which has been divided into separate parcels for redevelopment.
- EPA indicated that discharge of contaminated groundwater into the Creek should be investigated during the RI as a potential migration pathway. The RI should collect data to gain a better understanding of groundwater contaminants and groundwater discharge to the creek including north of the Troy Chemical property.
- EPA asked what the groundwater remedy was for the former Albert Steel Drum property (currently FedEx). NJDEP indicated that it was believed to be natural attenuation with a CEA, but would confirm with EPA.
- EPA indicated that storm sewers that contribute contaminants to the creek should be investigated and sampled. CDM Smith indicated that some information on stormwater infrastructure was obtained from the City of Newark (Newark). However, it is incomplete and efforts to obtain additional information on stormwater inputs to the creek are ongoing. CDM Smith indicated that Newark has approved review of the GIS of the Newark sewer system that is being developed by another division of CDM Smith. The GIS is expected to provide information on storm sewer discharge points along Pierson's Creek.
- EPA asked if vapor samples had been collected in any of the nearby properties. Based on the available information, vapor samples were collected from the Troy Chemical property.
- EPA indicated that more information needs to be collected during the RI on the various exposure pathways for the multiple properties and uses of the Pierson's Creek and the Port Newark Channel. During the site reconnaissance there was evidence that the 429 Delancy Street property was used for recreation.
- EPA indicated that the Port Authority (PA) of New York and New Jersey collected composite sediment samples during dredging of the Port Newark Channel. EPA believes that the samples showed high levels of mercury.



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- EPA indicated that the RI/FS work plan should include a phased approach to the field investigation including all contingent field activities that may be required for review by EPA.
- EPA discussed the use of a number of technologies and investigations that should be considered for inclusion in the work plan including:
 - Magnetometer surveys to identify sewers in the parking lot areas
 - Thermal imagery to identify discharges to the creek
 - Robotics to collect video to characterize the underground (piped) portions of the creek
 - Dye testing to understand discharges to the creek

Action Items

- NJDEP will provide information to EPA on the groundwater remedy for the former Albert Steel Drum property.
- EPA will request composite sample results for samples collected in connection with dredging of the Port Newark Channel by the PA.
- CDM Smith will respond to EPA's comments and revise the Draft Technical Memorandum - Summary of Existing Information and Data Gap Evaluation submitted on May 24, 2016.

If you have any questions concerning these meeting minutes, please contact me at your earliest convenience at (732) 590-4695.

Sincerely,

CDM FEDERAL PROGRAMS CORPORATON

Edward Leonard, CHMM
Site Manager

PSO:

cc: H. Eng, EPA
M. Clemetson, EPA
N. Mazziotta, EPA
M. Olsen, EPA
M. Scorca, EPA
J. Singerman, EPA
M. Sivak, EPA
A. Wagner, EPA

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RAC2 Document Control

Pierson's Creek RI/FS Technical Approach Meeting

Region 2 RAC2
Remedial Action Contract

June 1, 2016



**CDM
Smith.**

Objectives of the presentation

- Introductions
- Site background
- Present preliminary Conceptual Site Model (CSM)
- Present technical approach to Remedial Investigation
- Obtain EPA input
- Discuss path forward/Action items

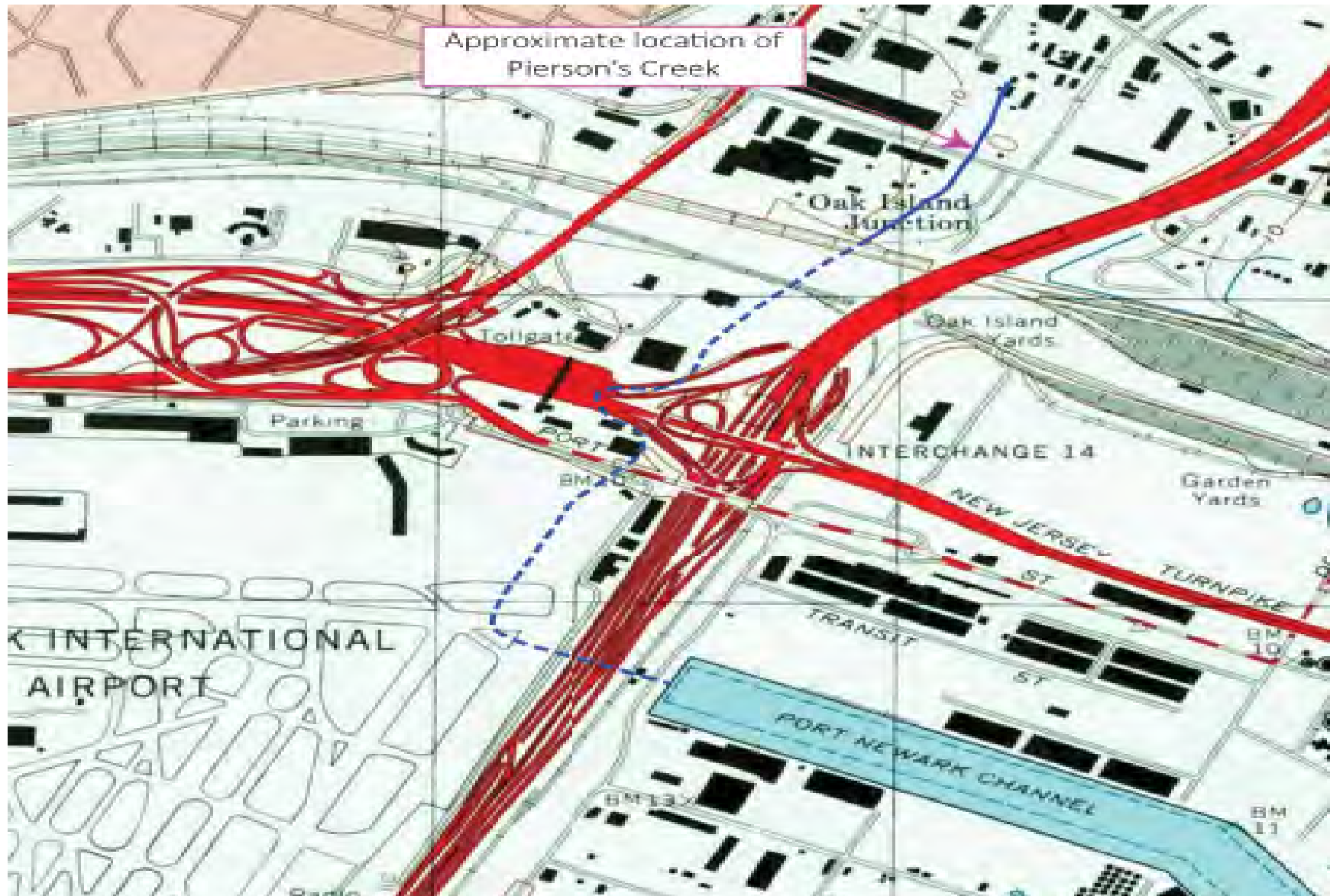
Site Background

- Site area was formerly a wetland that was filled (historical fill)
- Pierson's Creek is ~1.5 mile manmade drainage ditch
- Significant portions are culverted or underground
- Currently extends from the Troy Chemical to the Port Newark Channel of Newark Bay
- Both ends of the culvert on Troy Chemical are sealed
- Flooding of the creek has occurred in the past
- Historical discharges from Troy Chemical led to mercury contamination within the sediments of Pierson's Creek

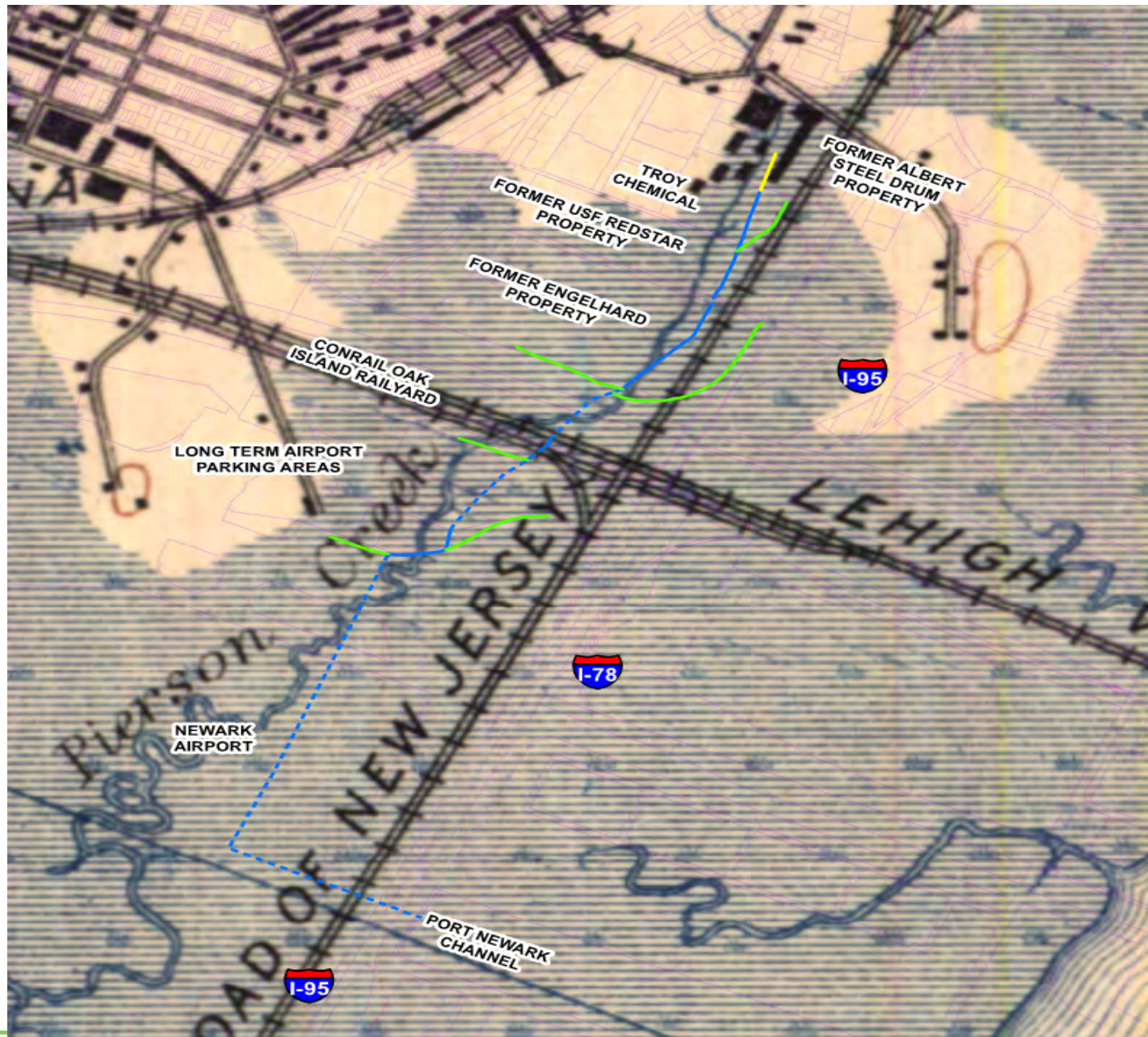
Site Background (cont'd)

- Potential discharges from neighboring properties:
 - 338 Wilson Avenue (former Albert Steel Drum / Prentiss Drug & Chemical, currently Fedex)
 - 400 Delancy Street (former USF Red Star, currently Ironbound Continental Plaza)
 - 429 Delancy Street (former Engelhard, currently 429 Delancy Associates)
 - 80 Avenue K (currently Manischewitz Co.)
 - 7 Avenue L (former Global Metals/Welch, Holme & Clark)

Pierson's Creek



Historic Area Map



1995 Aerial Image



2015 Aerial Image



Preliminary Conceptual Site Model

- Sources
 - Mercury releases from Troy Chemical
 - Discharges and releases from industries in the drainage area
 - Underground storage tanks
 - Historical fill
- Contaminants Detected
 - Mercury and other metals (As, Co, Cu, Pb, Zn)
 - CVOCs
 - SVOCs
 - PAHs
 - Petroleum hydrocarbons
 - PCBs

Preliminary Conceptual Site Model (cont'd)

- Potential migration pathways:
 - Erosion of contaminated surface soil
 - Transport of sediment, particularly during storm events
 - Groundwater discharge to the creek
 - Surface water and sediment contaminants deposited along and the creek banks and flood plains
 - Contaminated soils from excavated creek sediment (sidecast area)
- Major exposure pathways for human receptors:
 - Direct exposure to contaminated soil, sediment, and surface water
 - Exposure through consumption of contaminated fish and shellfish (Newark Bay)
- Major exposure pathways for ecological receptors:
 - Direct exposure to contaminated water, sediment, and soil
 - Ingestion of contaminated prey/plants
 - Direct uptake of contaminants in soil, sediment, and water by plants

Proposed Field Investigation Approach

- Existing data and CSM primary basis for approach
- Investigation is focused on:
 - Nature and extent of contamination in:
 - Sediments in creek, drainage ditches, and Port Newark Channel
 - Soils/sediments in floodplain areas
 - Surface water
 - Potential sources of continuing contamination including:
 - Runoff and erosion (surficial soils in runoff areas)
 - Direct discharges to the creek (any pipes or sewer discharges)
 - Groundwater discharge to creek (seeps and infiltration)

Proposed Field Investigation (cont'd)

- Topographic/bathymetric survey of entire creek area
- Survey of open portions of the creek
 - Identify discharges - wet and dry weather
 - Identify access/logistical issues
 - Identify sampling locations
- Sediment Sampling
 - Sample cores approximately every 100 linear feet of the creek (5 feet below creek bottom) and every 200 linear feet within tributaries
 - Additional cores near discharge points of culverts/other deposition areas
 - Transects in select areas - 1 to 2 cores in creek to native soil contact or 5 feet, shallow core samples to 2 feet on sidewalls
- Surface Water Sampling
 - Collected at each transect and at start and end of each property or culverts
 - Sample at point of discharge to Port Newark Channel (wet/dry weather)

Proposed Field Investigation (cont'd)

■ Groundwater Sampling

- Inspection of current well spacing to determine final well locations
- Transects of shallow wells to understand flow to the creek – 4 wells per transect, 2 on each side of the creek
- First set of wells to be spaced as close to the creek as possible to screen the water table
- Second set to be placed 100-feet away from creek, or closer depending on topography – screened at the water table
- Use existing wells if possible

■ Soil Sampling

- Surface soil samples into upland areas to collect shallow soil samples to represent what can be eroded into creek
- Additional soil samples in the following areas:
 - Former Globe Metals property
 - Eastern part of 420 Delancy Street property (sidecast area)

Troy Chemical to Delancy Street

Proposed Sample Locations

-  Sediment Core
-  Tributary Sediment Core
-  Deep Sediment Core
-  Creek Slope Sample
-  Surface Soil
-  Surface Water
-  Shallow Monitoring Well
-  Historic Monitoring Wells



Delancy Street to Conrail Yard



Conrail Yard to Underground Portion of Creek



Underground Portion of the Creek

- Information needed from the City of Newark on sewer infrastructure (manholes, stormwater inputs, pipe size, etc.)
- Ongoing information request with the City of Newark
- Sample if possible
- Access to Newark Airport will be difficult



Port Newark Channel



Next Steps

- Finalize Tech Memo based on EPA comments
- Obtain consensus on technical approach
- Prepare Volume 1 work plan
- Schedule



Questions?

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